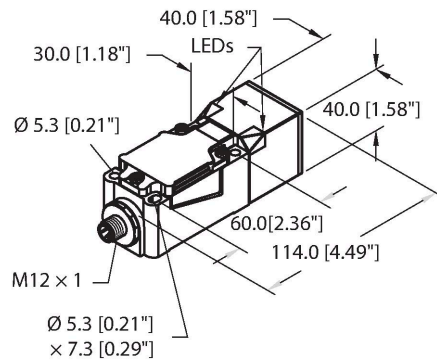


NI50U-CP40-VP4X2-H1141

Inductive Sensor – With Extended Switching Distance



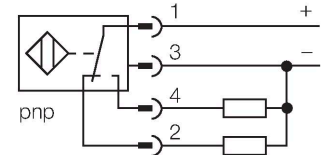
Features

- Rectangular, height 40 mm
- Variable orientation of active face in 9 directions
- Plastic, PBT-GF30-V0
- High luminance corner LEDs
- Optimum view on supply voltage and switching state from any position
- Factor 1 for all metals
- Increased switching distance
- Protection class IP68
- Resistant to magnetic fields
- Auto-compensation protects against pre-damping
- Partially embeddable
- DC 4-wire, 10...65 VDC
- Changeover contact, PNP output
- M12 x 1 male connector

Technical data

Type	NI50U-CP40-VP4X2-H1141
ID	1540613
General data	
Rated switching distance	50 mm
Mounting conditions	Non-flush, flush
Secured operating distance	$\leq (0.81 \times S_n)$ mm
Repeat accuracy	$\leq 2 \%$ of full scale
Temperature drift	$\leq \pm 10 \%$
	$\leq \pm 20 \%, \leq -25 \text{ }^{\circ}\text{C} \vee \geq +70 \text{ }^{\circ}\text{C}$
Hysteresis	3...15 %
Electrical data	
Operating voltage U_B	10...65 VDC
Ripple U_{ss}	$\leq 10 \%$ U_{Bmax}
DC rated operating current I_o	≤ 200 mA
No-load current	≤ 15 mA
Residual current	≤ 0.1 mA
Isolation test voltage	0.5 kV
Short-circuit protection	yes/Cyclic
Voltage drop at I_o	≤ 1.8 V
Wire break/reverse polarity protection	yes/Complete
Output function	4-wire, Complementary contact, PNP
DC field stability	300 mT
AC field stability	300 mT _{ss}
Insulation class	□

Wiring diagram



Functional principle

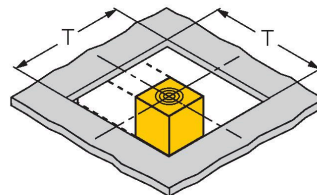
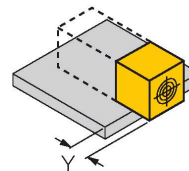
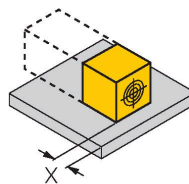
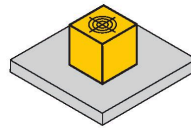
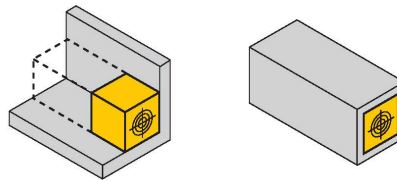
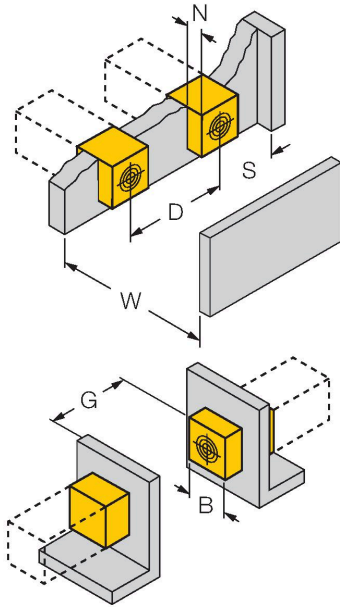
Inductive sensors are designed for wear-free and contactless detection of metal objects. uprox+ sensors have significant advantages due to their patented multi-coil system. They excel thanks to their optimum switching distances, maximum flexibility and operational reliability as well as efficient standardization.

Technical data

Switching frequency	0.25 kHz
Mechanical data	
Design	Rectangular, CP40
Dimensions	114 x 40 x 40 mm
Housing material	Plastic, PBT-GF30-V0, Black
Active area material	Plastic, PA6-GF30-X, yellow
Electrical connection	Connector, M12 × 1
Environmental conditions	
Ambient temperature	-30...+85 °C
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP68
MTTF	874 years acc. to SN 29500 (Ed. 99) 40 °C
Power-on indication	2 × LEDs, Green
Switching state	2 × LEDs, Yellow

Mounting instructions

Mounting instructions/Description



Distance D	240 mm
Distance W	105 mm
Distance S	60 mm
Distance G	300 mm
Distance N	30 mm
Width active area B	40 mm

Flush mounting

1-side mounting: $S_r = 35$ mm; $D = 240$ mm
 2-side mounting: $S_r = 25$ mm; $D = 240$ mm
 3-side mounting: $S_r = 20$ mm; $D = 80$ mm
 4-side mounting: $S_r = 17$ mm; $D = 60$ mm

Backside as well as recessed mounting with reduced switching distance

Recessed mounting in metal:

$x = 10$ mm: $S_r = 20$ mm
 $x = 20$ mm: $S_r = 20$ mm
 $x = 30$ mm: $S_r = 20$ mm
 $x = 40$ mm: $S_r = 20$ mm

Protruded mounting:

$y = 10$ mm: $S_r = 40$ mm
 $y = 20$ mm: $S_r = 50$ mm
 $y = 30$ mm: $S_r = 50$ mm
 $y = 40$ mm: $S_r = 50$ mm

Mounting in aperture plate:

$T = 150$ mm:
 Sensor with twisted turning angle
 On metal $S_r = 50$ mm
 Metal-enclosed on one side $S_r = 25$ mm
 Metal-enclosed on two sides $S_r = 15$ mm
 Metal-enclosed on three sides $S_r = 12$ mm

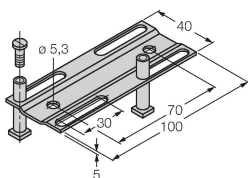
The values stated relate to a 1 mm thick steel plate.

Accessories

JS025/037

69429

Adjusting bar for rectangular housings
 CK/CP40; material: VA 1.4301



BSS-CP40

6901318

Mounting clamp for rectangular
 housings 40 x 40 mm; material:
 Polypropylene

